



**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2012-0766; Directorate Identifier 2012-SW-056-AD;**

**Amendment 39-17133; AD 2012-15-04]**

**RIN 2120-AA64**

**Airworthiness Directives; Eurocopter France Helicopters**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule; request for comments.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for Eurocopter France (Eurocopter) Model EC155B1 helicopters with a certain automated flight control system installed. This AD requires changing the minimum required crew for instrument flight rules (IFR) operations from one pilot to two. This AD is prompted by a report that an EC155B1 helicopter experienced significant intermittent roll oscillations while coupled to the autopilot. These actions are intended to decrease the pilot's workload while experiencing any oscillations during landing, which could result in possible loss of control of the helicopter.

**DATES:** This AD becomes effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

We must receive comments on this AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Docket: Go to <http://www.regulations.gov>. Follow the online instructions for sending your comments electronically.

- Fax: 202-493-2251.

- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.

- Hand Delivery: Deliver to the “Mail” address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

**EXAMINING THE AD DOCKET:** You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the economic evaluation, any comments received, and other information. The street address for the Docket Operations Office (telephone 800- 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Clark Davenport, Aviation Safety Engineer, Safety Management Group, Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5110; email [clark.davenport@faa.gov](mailto:clark.davenport@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

This AD is a final rule that involves requirements affecting flight safety, and we did not provide you with notice and an opportunity to provide your comments prior to it

becoming effective. However, we invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that resulted from adopting this AD. The most helpful comments reference a specific portion of the AD, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit them only one time. We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this rulemaking during the comment period. We will consider all the comments we receive and may conduct additional rulemaking based on those comments.

## **Discussion**

During a flight test of a Model EC155B1 helicopter, intermittent uncommanded roll oscillations were discovered during coupled instrument landing system (ILS) and localizer (LOC) approaches. The aircraft, which was coupled to the autopilot when these oscillations occurred, was not able to provide a stabilized approach from the final approach fix through the decision altitude or the minimum descent altitude. These intermittent oscillations occur during the landing phase of a flight, at an altitude of 500 feet or less above ground level, and result in higher single-pilot workload.

After an investigation, Eurocopter determined that these oscillations were caused by software in the automated flight control system (AFCS) that does not adequately filter the electronic “noise” from the U.S. ILS and LOC signals. This behavior of the autopilot was not experienced by aircraft operating in European airspace. An additional FAA flight

test of an EC155B1 with unmodified AFCS software coupled to various ILS signals confirmed the oscillations, and that they can roll the helicopter up to +/-15 degrees.

Eurocopter is developing a software modification that will update the filtering algorithms for U.S. category 1 ILS and LOC signals. Until this update is approved by the European Aviation Safety Agency and validated by the FAA, we have determined that single pilot IFR operations constitute an unsafe condition for this model helicopter.

#### **FAA's Determination**

These helicopters have been approved by the aviation authority of France and are approved for operation in the United States. We are issuing this AD because we evaluated all the relevant information and determined that an unsafe condition exists and is likely to exist or develop on other helicopters of the same type design.

#### **AD Requirements**

This AD requires, before further flight, changing the minimum flight crew requirements for IFR operations from one pilot to two by revising the rotorcraft flight manual (RFM) Operating Limitations section.

#### **Interim Action**

We consider this AD to be an interim action. The design approval holder is currently developing a modification that will address the unsafe condition identified in this AD. Once this modification is developed, approved, and available, we might consider additional rulemaking.

#### **Costs of Compliance**

We estimate that this AD will affect six helicopters of U.S. Registry. We estimate that operators may incur the following costs in order to comply with this AD. Revising

the RFM will require about .25 hour at an average labor rate of \$85 per work-hour, for a total cost per helicopter of about \$22 and a total cost to U.S operator fleet of \$132.

#### **FAA's Justification and Determination of the Effective Date**

Providing an opportunity for public comments prior to adopting these AD requirements would delay implementing the safety actions needed to correct this known unsafe condition. Therefore, we find that the risk to the flying public justifies waiving notice and comment prior to the adoption of this rule because the required corrective actions must be accomplished before further flight.

Since an unsafe condition exists that requires the immediate adoption of this AD, we determined that notice and opportunity for public comment before issuing this AD are impracticable and that good cause exists for making this amendment effective in less than 30 days.

#### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products

identified in this rulemaking action.

### **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify that this AD:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2012-15-04 **EUROCOPTER FRANCE:** Amendment 39-17133; Docket No. FAA-2012-0766; Directorate Identifier 2012-SW-056-AD.

**(a) Applicability.**

This AD applies to Model EC155B1 helicopters with an automated flight control system part number (P/N) 416-00297-161 and software level P/N 704A47-1332-79 installed, certificated in any category.

**(b) Unsafe Condition.**

This AD defines the unsafe condition as intermittent uncommanded roll oscillations during coupled instrument landing system and localizer approaches with the autopilot coupled, which could result in subsequent loss of control of the helicopter.

**(c) Effective Date.**

This AD becomes effective [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(d) Compliance.**

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

**(e) Required Actions.**

Before further flight, revise the Operating Limitations section of Eurocopter EC 155B1 Flight Manual Section 2.1, by inserting a copy of this AD into the Flight Manual

or by making pen and ink changes as follows. Under paragraph 5, Minimum Flight Crew/Maximum Personnel Transport Capability, beneath “Minimum flight crew,” remove the phrase “- one pilot in right-hand seat” and replace it as follows:

-VFR: One pilot in right-hand seat.

- IFR: Two pilots required.

**(f) Alternative Methods of Compliance (AMOCs).**

(1) The Manager, Safety Management Group, FAA, may approve AMOCs for this AD. Send your proposal to: Clark Davenport, Aviation Safety Engineer, Safety Management Group, Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5110; email [clark.davenport@faa.gov](mailto:clark.davenport@faa.gov).

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office, before operating any aircraft complying with this AD through an AMOC.

**(g) Subject.**

Joint Aircraft Service Component (JASC) Code: 2210: Autopilot System.

Issued in Fort Worth, Texas, on July 16, 2012.

Kim Smith,

Manager, Rotorcraft Directorate,  
Aircraft Certification Service.



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